



ARCTIC HEALTH

*An information portal to issues affecting the health and well-being
of our planet's northernmost inhabitants*

Micronuclei in lymphocytes of children from the vicinity of Chernobyl before and after ¹³¹I therapy for thyroid cancer.

<https://arctichealth.org/en/permalink/ahliterature22783>

Author: K. Wuttke
C. Streffer
W U Müller
C. Reiners
J. Biko
E. Demidchik

Author Affiliation: Institut für Medizinische Strahlenbiologie, Universitätsklinikum Essen, Germany.

Source: Int J Radiat Biol. 1996 Feb;69(2):259-68

Date: Feb-1996

Language: English

Publication Type: Article

Keywords: Accidents, Radiation
Adolescent
Child
Chromosome Aberrations
DNA Damage - radiation effects
Female
Humans
Iodine Radioisotopes - therapeutic use
Lymphocytes - pathology
Male
Micronuclei, Chromosome-Defective - ultrastructure
Neoplasms, Radiation-Induced - genetics
Power Plants
Research Support, Non-U.S. Gov't
Thyroid Neoplasms - genetics
Time Factors
Ukraine

Abstract: The present study addresses the monitoring of children from the Belorussian and Ukrainian Republics exposed to the fall-out of the Chernobyl accident. Micronucleus analysis has been performed on 56 children from different areas. The micronucleus frequencies in individuals as well as in regional groups were comparable with controls, except for three donors. Such results had to be expected, taking into account that at least 7 years have passed since the accident. Most of the children whose micronucleus frequencies were determined are suffering from thyroid cancer and were treated by radioiodine (¹³¹I) therapy. We studied the effect of in vitro exposure with ¹³¹I on micronucleus induction and that proliferative ability of lymphocytes. The present investigation indicates that micronuclei can be usefully employed to detect individual exposures to the incorporated radionuclide within several days after the intake of the radionuclide in a dose range of around 65-390 mGy (effective dose).

PubMed ID: 8609463 [View in PubMed](#) 